

REMARKS

In the Office Action, the Examiner noted that claims 1-41 are pending in the application, claims 1, 10-25, and 34-41 are withdrawn from consideration, and claims 2-9 and 26-33 are rejected. By this response, claims 2-5, 8-9, 26-29, and 32-33 are amended, and claims 1, 10-25, and 34-38, and 40-41 are withdrawn. The Applicant has cancelled both of the claims designated with the number "39" without prejudice. In view of the above amendments and the following discussion, the Applicant submits that none of the claims now pending in the application are anticipated under the provisions of 35 U.S.C. §102, obvious under the provisions of 35 U.S.C. § 103, or nonenabled under the provisions of 35 U.S.C. §112. Thus, the Applicant believes that all of these claims are now in condition for allowance.

I. RESTRICTION OF CLAIMS

The Examiner imposed a restriction requirement among the following groups of claims: claims 1 and 25 (Group I) drawn to a method for determining a window of frequency search; claims 2-9 and 26-33 (Group II) drawn to a method of determining time of day; claims 10-18 and 34-41 (Group III) drawn to a method for determining position; and claims 19-24 (Group IV) drawn to a GPS mobile receiver. The Applicant provisionally elected the invention of Group II without traverse.

Accordingly, the Applicant affirms the election of the invention of Group II, claims 2-9 and 26-33, for further prosecution. The Applicant reserves the right to subsequently file divisional applications in order to prosecute the invention appearing in the non-elected groups I, III, and IV.

II. OBJECTIONS

The Examiner objected to Figure 2 of the drawings. In particular, the Examiner noted that the specification describes the element "telephone" differently than what is shown in Figure 2. Accordingly, the Applicant has amended paragraph 28 of the specification to properly designate the element "telephone" with the reference character "26", which corresponds with the designation of the element "telephone" in Figure 2. As

such, the Applicant respectfully requests that the objection to the drawings be withdrawn.

III. REJECTION OF CLAIMS UNDER 35 U.S.C. §112

The Examiner rejected claims 2-9 under 35 U.S.C. §112, first paragraph, as containing subject matter not described in the specification in such a way as to enable one skilled in the art to which it pertains to make and use the invention. In particular, the Examiner alleged that "[t]he reception and use of a cellular network's signals without being a subscriber are not sufficiently enabled." The rejection is respectfully traversed.

As understood by those skilled in the art, a cellular acquisition signal is broadcast by a cellular basestation to enable a cellular handset to synchronize to the basestation and establish a two-way communication therebetween. (See Applicant's specification, ¶¶31-32; FIG. 3). Cellular acquisition signals may be received by any device having an appropriate antenna and front end receiver (See Applicant's FIG. 1, elements 111 and 131). Notably, a cellular handset merely monitors specific frequencies for the cellular acquisition signals much like an FM radio monitors a particular frequency to receive FM radio signals. In one embodiment of the invention, a cellular acquisition signal is received that includes a time synchronization signal. (See Applicant's specification, ¶¶42-44). Thus, a device may "obtain a time synchronization signal from a cellular network" by searching a known frequency for a cellular acquisition signal having the time synchronization signal. Since the cellular acquisition signal is broadcast from a cellular basestation at a known frequency, any device may receive the cellular acquisition signal, and thus the time synchronization signal, without having a subscription to the cellular network. See also, Wheatley, "CDMA's Dependence of Good Timing and Related Issues," 1996 IEEE International Frequency Control Symposium, pp.1212-1213 (cited by the Examiner).

"The scope of enablement...is that which is disclosed in the specification plus the scope of what would be known to one of ordinary skill in the art without undue experimentation." See National Recovery Techs., Inc. v. Magnetic Separation Sys., Inc., 49 USPQ 2d 1671, 1675-76 (Fed. Cir. 1999) (citations omitted). As discussed

above, the Applicant's specification clearly states how to receive a cellular acquisition signal without having a subscription to a cellular network. In addition, cellular acquisition signals and their uses are well-known to those skilled in the art. Therefore, the Applicant contends that the invention of claims 2-9 is clearly described in the specification in such a way as to enable one skilled in the art to which it pertains to make and use the invention and, as such, fully satisfies the requirements of 35 U.S.C. §112.

IV. REJECTION OF CLAIMS UNDER 35 U.S.C. §102

The Examiner rejected claims 2-9 and 26-33 as being separately anticipated by Kurby (United States patent 6,323,804, issued November 27, 2001), Krasner (United States patent 6,150,980, issued), and Naruse (United States patent 6,369,751, issued April 9, 2002). The rejections are respectfully traversed.

A. The Kurby patent

More specifically, the Examiner alleged that Kurby teaches obtaining from a satellite communication network a satellite data stream formatted with time frames associated with an absolute satellite time and then synchronizing time within a GPS receiver with the absolute satellite time. (Office Action, ¶15). The Examiner further alleged that the mobile device having the GPS receiver is not required to have a subscription to satellite communication network and is not required to transmit any signal to the satellite communication network. (Office Action, ¶15). The Examiner concluded that Kurby anticipates the Applicant's invention recited in claims 2-9 and 26-33. The Applicant respectfully disagrees.

Kurby teaches using the frame timing within a satellite communication data signal to determine a time reference that may be used to generate an absolute time within a GPS device. (See Kurby, Abstract). In particular, Kurby uses a unique time slot within the satellite data signal to determine the start of a frame that is known to repeat at a particular time interval. (See Kurby, col. 4, lines 31-54). The absolute time is used to

rapidly acquire signals from GPS satellites by synchronizing the CDMA pseudo noise codes that spread the GPS signals. (See Kurby, col. 5, lines 33-40; FIG 4).

Kurby, however, does not teach each and every element of the Applicant's invention recited in claim 2. Namely, Kurby does not teach or suggest processing satellite trajectory data within a GPS handheld device using a time of day determined from a time synchronization signal of a cellular network. Specifically, the Applicant's amended claim 2 positively recites:

"A method, comprising:

obtaining a time synchronization signal from a cellular network at a global positioning system (GPS) handheld device without a subscription to the cellular network using a front end only capable of receiving signals from said cellular network;

determining a timing offset responsive to the time synchronization signal;
determining a time of day responsive to the timing offset; and

processing satellite trajectory data within the GPS handheld device using the time of day." (Emphasis added).

In contrast to the Applicant's invention, Kurby obtains a reference time from a satellite communication system and uses the reference time to acquire GPS signals. That is, Kurby is using the reference time to synchronize the pseudo noise codes and despread the GPS signals. Kurby is devoid of any teaching or suggestion of processing satellite trajectory data using time of day determined from a time synchronization signal of a cellular network. Using a reference time to acquire GPS signals, as taught by Kurby, does not teach or suggest using a time of day to process satellite trajectory data, as recited in the Applicant's claim 2.

"Anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim." Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co., 221 USPQ 481, 485 (Fed. Cir. 1984) (emphasis added). Since Kurby does not teach processing satellite trajectory data within a GPS handheld device using a time of day determined from a time synchronization signal of a cellular network, Kurby does not teach each and every element of the Applicant's claim 2. Therefore, the Applicant contends that the invention recited in claim 2 is not anticipated by Kurby and, as such, fully satisfies the requirements of 35 U.S.C. §102.

Amended claim 26 recites a method for receiving a GPS signal to a GPS handheld device having features similar to those recited in claim 2. For the same reasons discussed above, the Applicant contends that the invention recited in claim 26 is not anticipated by Kurby and, as such, fully satisfies the requirements of 35 U.S.C. §102. Finally, claims 3-9 and 27-33 depend, either directly or indirectly, from claims 2 and 26 and recite additional features therefor. Since Kurby does not anticipate the Applicant's invention as recited in claims 2 and 26, dependent claims 3-9 and 27-33 are also not anticipated and are allowable.

B. The Krasner patent

More specifically, the Examiner alleged that Krasner teaches receiving a system time within a synchronization channel from a cellular network and using the system time to aid a mobile GPS receiver during its initial search for in view satellites. (Office Action, ¶16). The Examiner further alleged that there is no requirement in Krasner to transmit any signals or to have a subscription with the cellular network. (Office Action, ¶16). The Examiner concluded that Krasner anticipates the Applicant's invention recited in claims 2-9 and 26-33. The Applicant respectfully disagrees.

Krasner teaches deriving timing signals from a communication system to provide accurate time information for a GPS receiver. (See Krasner, Abstract). In particular, Krasner uses the frame timing within the data signal to derive a reference time that may be used by the GPS receiver to determine position of GPS satellites. (Krasner, col. 9, lines 8-47; col. 10, line 51 through col. 11, line 34; FIGs. 4A and 4B). Krasner employs a combined GPS/communication receiver to perform the time determination, such as a GPS receiver and cellular telephone combination. (See Krasner, col. 11, lines 55-67).

Krasner, however, does not teach each and every element of the Applicant's invention recited in claim 2. Namely, Krasner does not teach or suggest obtaining a time synchronization signal from a cellular network at GPS handheld device without a subscription to the cellular network using a front end only capable of receiving signals from said cellular network. Rather, Krasner employs a combined GPS/communication receiver device that is capable of both transmitting and receiving signals from a

basestation. Krasner does not employ a front end that is only capable of receiving signals from a cellular network. As such, Krasner does not teach each and every element of the Applicant's claim 2. Therefore, the Applicant contends that the invention recited in claim 2 is not anticipated by Krasner and, as such, fully satisfies the requirements of 35 U.S.C. §102.

Amended claim 26 recites a method for receiving a GPS signal to a GPS handheld device having features similar to those recited in claim 2. For the same reasons discussed above, the Applicant contends that the invention recited in claim 26 is not anticipated by Krasner and, as such, fully satisfies the requirements of 35 U.S.C. §102. Finally, claims 3-9 and 27-33 depend, either directly or indirectly, from claims 2 and 26 and recite additional features therefor. Since Krasner does not anticipate the Applicant's invention as recited in claims 2 and 26, dependent claims 3-9 and 27-33 are also not anticipated and are allowable.

C. The Naruse patent

More specifically, the Examiner alleged that Naruse teaches obtaining a synchronization signal from a CDMA cellular network and using the synchronization signal to acquire GPS signals. (Office Action, ¶17). The Examiner further alleged that there is no requirement in Naruse to have a subscription to the CDMA network or to transmit signals to the CDMA network. (Office Action, ¶17). The Examiner concluded that Naruse anticipates the Applicant's invention as recited in claims 2-9 and 26-33. The Applicant respectfully disagrees.

Naruse teaches generating a code timing signal in response to determining the head timing of the PN code cycle of the CDMA signal, and using the code timing signal to generate a system time for use by a GPS receiver. (See Naruse, col. 4, lines 47-60). Using the system time, Naruse determines the head timing of the PN code cycle of a GPS signal. (Naruse, col. 5, lines 35-40).

Naruse, however, does not teach each and every element of the Applicant's invention recited in claim 2. Namely, Naruse does not teach or suggest processing satellite trajectory data within a GPS handheld device using a time of day determined

from a time synchronization signal of a cellular network. Rather, Naruse employs a system time derived from a CDMA signal to determine the head timing of the pseudorandom code that spreads the satellite signals. In other words, Naruse uses the system time to assist in acquiring the satellite signals by synchronizing to the pseudorandom code that spreads the signals. Naruse is devoid of any teaching or suggestion of processing satellite trajectory data using time of day determined from a time synchronization signal of a cellular network. Using a reference time to acquire GPS signals, as taught by Naruse, does not teach or suggest using a time of day to process satellite trajectory data, as recited in the Applicant's claim 2. As such, Naruse does not teach each and every element of the Applicant's claim 2. Therefore, the Applicant contends that the invention recited in claim 2 is not anticipated by Naruse and, as such, fully satisfies the requirements of 35 U.S.C. §102.

Amended claim 26 recites a method for receiving a GPS signal to a GPS handheld device having features similar to those recited in claim 2. For the same reasons discussed above, the Applicant contends that the invention recited in claim 26 is not anticipated by Naruse and, as such, fully satisfies the requirements of 35 U.S.C. §102. Finally, claims 3-9 and 27-33 depend, either directly or indirectly, from claims 2 and 26 and recite additional features therefor. Since Naruse does not anticipate the Applicant's invention as recited in claims 2 and 26, dependent claims 3-9 and 27-33 are also not anticipated and are allowable.

V. REJECTION OF CLAIMS UNDER 35 U.S.C. §103(a)

The Examiner rejected claims 2-9 and 26-33 as being unpatentable over Eshenbach (United States patent 5,663,735, issued September 2, 1997) in view of either one of Smith (United States patent application publication US2002/0172313, published November 21, 2002) or Nir (WIPO publication WO 01/75473, published October 11, 2001). The rejections are respectfully traversed.

A. Eshenbach in view of Smith

More specifically, the Examiner alleged that Eshenbach teaches receiving a radio signal having a standard time and using the standard time for resolving GPS signals, but conceded that Eshenbach does not teach a cellular network for transmitting the radio signal having the standard time. (Office Action, ¶19). The Examiner alleged, however, that Smith teaches the use of CDMA cell-phone base stations as a stable source of synchronization. (Office Action, ¶19). The Examiner concluded that it would have been obvious to modify Eshenbach to decode a standard time signal from a cellular base station, since such cellular base stations are known to be a stable source of synchronization. The Applicant respectfully disagrees.

Eshenbach generally teaches using a radio signal having a standard time or frequency to provide a timing reference for a GPS receiver. (See Eshenbach, Abstract). Eshenbach uses the standard time or frequency to determine a time of transition between two data bits of the GPS satellite and improve the time to first fix. (See Eshenbach, col. 2, lines 5-11). Eshenbach is devoid of any discussion regarding a cellular telephone network as the source of radio signals.

Smith generally teaches synchronizing a carrier frequency of a broadcast signal with a remote reference frequency. (See Smith, Abstract). Smith teaches several sources of a stable reference frequency, including a CDMA base station. (Smith, ¶24).

In view of the forgoing, the alleged combination of Eshenbach and Smith, either singly or in any permissible combination, does not teach, suggest, or otherwise render obvious the Applicant's invention recited in claim 2. Namely, the alleged combination fails to teach or suggest processing satellite trajectory data within a GPS handheld device using a time of day determined from a time synchronization signal of a cellular network. Eshenbach is devoid of any discussion of receiving signals from a cellular network. Moreover, Eshenbach does not process satellite trajectory data within a GPS handheld device. Rather, Eshenbach uses the standard time from the radio signal to improve the time to first fix by sensing a time of transition between two data bits. Smith is completely devoid of any teaching or suggestion of processing satellite trajectory data within a GPS handheld device. Since neither Eshenbach nor Smith individually teach or suggest processing satellite trajectory data within a GPS handheld device using a time

of day determined from a time synchronization signal of a cellular network, no conceivable combination of Eshenbach and Smith renders the Applicant's invention of claim 2 obvious. Therefore, the Applicant contends that the invention of claim 2 is nonobvious over the alleged combination of Eshenbach and Smith and, as such, fully satisfies the requirements of 35 U.S.C. §103.

Amended claim 26 recites a method for receiving a GPS signal to a GPS handheld device having features similar to those recited in claim 2. For the same reasons discussed above, the Applicant contends that the invention recited in claim 26 is nonobvious over the alleged combination of Eshenbach and Smith and, as such, fully satisfies the requirements of 35 U.S.C. §103. Finally, claims 3-9 and 27-33 depend, either directly or indirectly, from claims 2 and 26 and recite additional features therefor. Since the cited references do not render obvious the Applicant's invention as recited in claims 2 and 26, dependent claims 3-9 and 27-33 are also nonobvious and are allowable.

B. Eshenbach in view of Nir

More specifically, the Examiner alleged that Eshenbach teaches receiving a radio signal having a standard time and using the standard time for resolving GPS signals, but conceded that Eshenbach does not teach a cellular network for transmitting the radio signal having the standard time. (Office Action, ¶19). The Examiner alleged, however, that Nir teaches the use of a cellular network for extracting synchronization data to enhance the accuracy of pseudorange data. (Office Action, ¶19). The Examiner concluded that it would have been obvious to modify Eshenbach to decode a standard time signal from a cellular base station, since such cellular base stations are known to be a stable source of synchronization. The Applicant respectfully disagrees.

Nir teaches correcting for local clock frequency shift within a device by referencing a local oscillator to the synchronization frames of a cellular communication signal. (See Nir, page 6, lines 15-20). Nir calibrates the local oscillator in order to enhance the accuracy of pseudorange calculation to GPS satellites. (Nir, page 4, lines 1-5).

In view of the forgoing, the alleged combination of Eshenbach and Nir, either singly or in any permissible combination, does not teach, suggest, or otherwise render obvious the Applicant's invention recited in claim 2. Namely, the alleged combination fails to teach or suggest processing satellite trajectory data within a GPS handheld device using a time of day determined from a time synchronization signal of a cellular network. As discussed above, Eshenbach is devoid of any discussion of receiving signals from a cellular network and processing satellite trajectory data. Nir is completely devoid of any teaching or suggestion of processing satellite trajectory data within a GPS handheld device using time of day information. Rather, Nir is concerned with enhancing the accuracy of pseudorange calculations.

Since neither Eshenbach nor Nir individually teach or suggest processing satellite trajectory data within a GPS handheld device using a time of day determined from a time synchronization signal of a cellular network, no conceivable combination of Eshenbach and Nir renders the Applicant's invention of claim 2 obvious. Therefore, the Applicant contends that the invention of claim 2 is nonobvious over the alleged combination of Eshenbach and Nir and, as such, fully satisfies the requirements of 35 U.S.C. §103.

Amended claim 26 recites a method for receiving a GPS signal to a GPS handheld device having features similar to those recited in claim 2. For the same reasons discussed above, the Applicant contends that the invention recited in claim 26 is nonobvious over the alleged combination of Eshenbach and Nir and, as such, fully satisfies the requirements of 35 U.S.C. §103. Finally, claims 3-9 and 27-33 depend, either directly or indirectly, from claims 2 and 26 and recite additional features therefor. Since the cited references do not render obvious the Applicant's invention as recited in claims 2 and 26, dependent claims 3-9 and 27-33 are also nonobvious and are allowable.

CONCLUSION

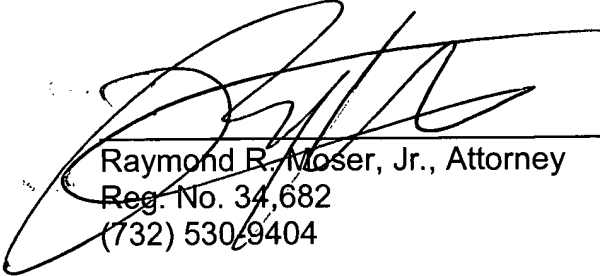
Thus, the Applicant submits that none of the claims presently in the application are nonenabling under the provisions of 35 U.S.C. §112, anticipated under the

provisions of 35 U.S.C. § 102, or obvious under the provisions of 35 U.S.C. § 103. Consequently, the Applicant believes that all these claims are presently in condition for allowance. Accordingly, both reconsideration of this application and its swift passage to issue are earnestly solicited.

If, however, the Examiner believes that there are any unresolved issues requiring adverse final action in any of the claims now pending in the application, it is requested that the Examiner telephone Mr. Raymond R Moser Jr., Esq. at (732) 530-9404 so that appropriate arrangements can be made for resolving such issues as expeditiously as possible.

Respectfully submitted,

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